

# Bulletin of the BRITISH ORNITHOLOGISTS' CLUB

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The seven hundred and forty-first Meeting of the Club was held in the Senior Common Room, South Side, Imperial College, London, S.W.7 on Tuesday, 21 September 1982 at 7 p.m. The attendance was 27 Members and 7 guests.

Members present were: D. R. CALDER (*Chairman*), F. B. S. ANTRAM, Major N. A. G. H. BEAL, K. F. BETTON, Mrs DIANA BRADLEY, R. D. CHANCELLOR, P. J. CONDER, R. A. N. CROUCHER, J. H. ELGOOD, Sir HUGH ELLIOTT, D. J. FISHER, Dr C. H. FRY, A. GIBBS, B. GRAY, D. GRIFFIN, P. HOGG, Dr D. C. HOUSTON, A. M. HUTSON, J. KING, Dr A. G. KNOX, Revd. G. K. McCULLOCH, Dr J. F. MONK, R. E. F. PEAL, S. A. H. STATHAM, K. V. THOMPSON, M. P. WALTERS and Lieut.-Col. T. C. WHITE.

Guests present were: Mrs N. A. G. H. BEAL, Mrs I. McCULLOCH, Dr AMICIA MELLAND, Mrs DIANA MONK, M. M. MORTON, IAN PRESTT and Mrs S. A. H. STATHAM.

Dr D. C. Houston gave a stimulating address on "Vultures", dealing especially with the feeding ecology of vultures in parts of East Africa where he had studied them closely. A lively discussion followed.

The seven hundred and forty-second Meeting of the Club was held at Sevenoaks on Saturday, 16 October 1982, commencing at 10.30 a.m.

Those participating were:

Members: Mrs DIANA BRADLEY, R. E. F. PEAL and M. P. WALTERS.

Guests: M. J. BRADLEY, Miss B. CRAWFURD, Dr D. M. HARRISON, A. HEATON and Mrs ELIZABETH PEAL.

In the morning Dr D. L. Harrison conducted the party round the Harrison Zoological Museum, showing the fine collection of mounted specimens and particularly interesting examples from the some 30,000 bird skins and many mammal skins. He also explained that use of the collections for research purposes is welcomed. Lunch was kindly provided by Mrs Peal at 2 Chestnut Lane. In the afternoon Mr A. Heaton conducted the party round the Sevenoaks Experimental Wildfowl Reserve; he explained its origins and its aims and showed the various species present. After a dry morning there was rain in the afternoon and a very interesting Meeting closed at 4.30 p.m. We extend our thanks to Dr D. L. Harrison and to Mr A. Heaton.

## Variations in the white markings of the Blackish Nightjar *Caprimulgus nigrescens*

by J. Ingels and J.-H. Ribot

Received 2 March 1982

Crepuscular and nocturnal nighthawks and nightjars (*Caprimulgidae*) roost during the day at suitable sites in their habitats. During this period of inactivity, they trust their cryptic colour pattern blending perfectly with their surroundings to escape predators who rely upon eyesight. Their intricate colour patterns are so tedious to describe that descriptions in field guides are usually limited to general impressions of plumage colours and obvious differentiating characters.

In the genus *Caprimulgus*, identification characters are restricted to a throat

band, patches in the primaries and the tips of the rectrices. These markings are mostly white and pronounced in ♂♂, greatly reduced or absent and replaced by buff or tawny in ♀♀, thus forming an important sexual dimorphism (Meyer de Schauensee 1970).

The Blackish Nightjar *Caprimulgus nigrescens* is the darkest coloured of neotropical caprimulgids. Its distribution is restricted to the Amazonian basin (Meyer de Schauensee 1964). Its habitat includes open or rocky places and roads in forests, second growth and savannas, large granite outcrops in rain forest and rocks in mid-stream along rivers (Haverschmidt 1968).

It is a small (length 20 cm) blackish nightjar with rufous spots and mottlings on the dorsal surface and a few whitish spots on the breast. The tail of both sexes is distinctly barred with broad mottled greyish buff transverse bars. Sexual dimorphism is obvious; ♀♀ have no white in tail and wings, but an indistinct white throat band, sometimes broken in the middle, is usually found in both sexes. This paper deals with variations in the white markings of ♂♂ and in the mottled greyish buff tail barring of both sexes.

In field guides on the avifauna of Surinam, Venezuela, Colombia and South America in general, the white pattern of Blackish Nightjar ♂♂ is described respectively as follows:—

'The male has a white spot on the inner web of the third and fourth primaries and white tips to the two penultimate tail-feathers' (Haverschmidt 1968).

'Outer two primaries uniform blackish, next two with white spot on inner web. Outermost tail feathers virtually uniform, next two tipped white' (Meyer de Schauensee 1970).

'... small spots on inner web of inner primaries and narrow tip to second and third outermost tailfeathers white' (Meyer de Schauensee 1964).

'Primaries black with a white spot on the middle of the inner web of the 2nd, 3rd and 4th feather (sometimes indistinct on the 2nd primary). A white tip 0.5 in. (12 mm) wide on both webs of 2nd and 3rd outer rectrix' (Meyer de Schauensee & Phelps 1978). (The numbering of primaries and rectrices is reversed here).

We examined 29 specimens (17 ♂, 12 ♀) in the British Museum (Natural History) (BMNH) and 13 specimens (8 ♂, 5 ♀) in the Rijksmuseum van Natuurlijke Historie (RNH, Leiden) from Surinam (13), British Guiana (now Guyana) (16), Ecuador (5), Peru (2), Brazil (3) and 3 from an unknown locality. In addition to these museum specimens, 9 individuals (7 ♂, 2 ♀) of a population of Blackish Nightjars were mist-netted and examined in April 1980 near Voltzberg (4° 40' N, 56° 11' W) in Surinam. Four (3 ♂, 1 ♀) were juveniles from the earlier February-March 1980 breeding season. Juveniles moult into their first basic or adult plumage within 2-3 months after fledging.

All ♂♂ were examined for form and pattern of the white wing patches and tail tips. In both sexes, tail barring was examined, special attention being given to symmetry of barring on both inner and outer webs, and to the orientation of the bars with regard to the feather shaft. These phenomena were also compared in juvenal and adult specimens since there are differences which allow them to be distinguished.

Blackish Nightjars have 10 primaries (remiges attached to the manus) in each wing and 10 rectrices. We counted both primaries and rectrices from the inside outwards (Snow 1967). Specimens lacking primaries or rectrices or both were not considered.

## WING PATCHES

*Adults*

In adult ♂♂, white patches are found on the 7th, 8th and 9th primaries. They are distributed symmetrically on both left and right wings, and are situated where the outer web broadens, at about 2/5 of the total length of the primary from the tip. The distribution over both webs is given in Table 1. This white 'wing-bar' of Blackish Nightjar ♂♂ is composed sometimes of 3 or 5, but most often of 4, separate patches, respectively in 29, 18 and 53% of the specimens. The 'normal' wing pattern therefore consists of 4 white patches involving the 7th primary's outer and inner web, and the 8th and 9th primaries' inner web only.

Table 1

WING PATCHES		Juveniles (N=3)	Adults (N=29)	TAIL TIPS		Juveniles (N=3)	Adults (N=29)
<i>Primaries web</i>				<i>Rectrices web</i>			
9th	outer	—	—	5th	outer	—	—
	inner	—	25 (86%)		inner	—	8 (28%)
8th	outer	—	7 (24%)	4th	outer	3 (100%)	29 (100%)
	inner	3 (100%)	29 (100%)		inner	3 (100%)	29 (100%)
7th	outer	—	26 (90%)	3rd	outer	3 (100%)	29 (100%)
	inner	3 (100%)	29 (100%)		inner	3 (100%)	29 (100%)
				2nd	outer	—	3 (10%)
					inner	—	3 (10%)

Table 1. Details of the white pattern on wings and tail of juvenal and adult ♂♂ Blackish Nightjars *Caprimulgus nigrescens*.

*Juveniles*

In juvenal ♂♂, small dull white patches are found on the inner web of the 7th and 8th primaries only, not on the 9th primary (Table 1). All primaries have rufous tips.

## TAIL TIPS

*Adults*

In adult ♂♂, the normal white tail pattern is a white tip on both webs of the 3rd and 4th rectrices. A white tip on both webs of the 2nd and on the inner web of the 5th rectrices is present in only 10 and 28% respectively of the specimens (Table 1), and is sometimes smaller than those on the 3rd and 4th rectrices. The white tips are symmetrical, being present on both the left and right side of the tail.

*Juveniles*

In juvenal ♂♂, dull white tail tips are always present on both webs of the 3rd and 4th rectrices only. This juvenal pattern is identical to the 'normal' pattern of adult ♂♂, except that the white tips are duller and smaller.

Form and size of the (dull) white wing patches and tail tips in (juvenal and) adult ♂♂ are very variable and not well demarcated. At the edges, the white colour is gradually replaced by the normal blackish feather colour. In this transitional area, barbs are blackish and barbules whitish.

Abrasion or wear is no cause of variation in the white tail tips of either juvenal or adult ♂♂ but variation is found in both age groups whether in worn plumage or not.

## TAIL BARRING

There is no relevant difference in barring pattern between the sexes; however, there is an obvious difference between juveniles and adults.



In juveniles the rectrices and the bars are narrower, with reduced intensity of the colours and less marbling, and are thus less pronounced than in adults. The general colour impression of the bars is rufous in juveniles and greyish buff in adults.

In both age groups, the number of bars per rectrix is constant, 10 bars per feather, including the marbled distal and proximal ends of the rectrix. In rectrices with a white tip, the white replaces the marbled distal end. The 2-3 bars at the base of the rectrices are narrower than the others, and almost uniformly buffish with little or no marbling. In the outer rectrices all bars are narrower and less marbled.

Barring is most even in the 2 central rectrices, where bars are 3-5 mm broad in juveniles and from 5-7 mm broad in adults. Except for both central rectrices, the bars are broader on the outer webs and the difference between both webs becomes more pronounced in the outer rectrices. In the central rectrices, barring is normally at right angles to the feather shaft and evenly distributed on both inner and outer web. The barring of the central rectrices is symmetrical (apart from the direction of the bars in relation to the shaft) in 79% of all specimens, but in 17 and 4% of the specimens examined, barring is almost symmetrical and completely asymmetrical respectively. The direction of the bars with regard to the feather shaft varies between being at right angles to it and a slight fish-bone pattern, while sometimes a mixture of both patterns is found, one web having the bars at right angles, the other having a fish-bone barring; but the type of barring on each feather is uniform for all rectrices of a given specimen.

The Blackish Nightjar has no subspecies (Peters 1940), and variations in colour patterns are not related to geographical distribution; aberrant patterns are spread randomly throughout specimens, independent of the locality of collecting.

The small possibility that the variation in amount of white in tail and wings is an age-related phenomenon cannot be excluded completely by the above investigations, but it is slight. To show that ♂♂ acquire a more extensive pattern of white tail tips and wing patches when growing older would involve a prolonged and very difficult field study of a population of ringed Blackish Nightjars.

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